KONGUNADU ARTS AND SCIENCE COLLEGE [AUTONOMOUS]
COIMBATORE - 641 029
B.Sc COMPUTER TECHNOLOGY [B.Sc CT]

CURRICULUM & SCHEME OF EXAMINATION UNDER CBCS

[APPLICABLE TO STUDENTS ADMITTED FROM THE ACADEMIC YEAR 2015-2016 & ONWARDS]

Semester	Part	Subject Code	Title of the Paper	Instruction Hours / Cycle	Exam. Marks			Duration of Exam(Hours)	Credits
					CIA	ESE	Total		
I	I	15TML1A1	Language I @	6	25	75	100	3	3
	II	15ENG101	English I	6	25	75	100	3	3
	III	15UCT101	C.P.1 C Programming	5	25	75	100	3	4
		15UCT1CL	C.Pr.1 C Programming Lab	5	40	60	100	3	2
		15UCT1A1	Allied 1 - Discrete Mathematics and Statistics	6	25	75	100	3	5
	IV	**15EVS101**	**Environmental Studies ****	**2**	**-**	**50**	**50**	**3**	**2**
II	I	15TML2A2	Language II @	6	25	75	100	3	3
	II	15ENG202	English II	6	25	75	100	3	3
	III	15UCT202	C.P.2 Digital Fundamentals and Computer Organization	3	25	75	100	3	4
		15UCT203	C.P.3 Object Oriented Programming with C++	4	25	75	100	3	4
		15UCT2CM	C.Pr.2 C++ Programming Lab	3	40	60	100	3	2
		15UCT2A2	Allied 2 – Operations Research	6	25	75	100	3	5
	IV	**15VED201**	**Value Based Education ** (Moral and Ethics)**	**2**	**-**	**50**	**50**	**3**	**2**
III	III	15UCT304	C.P.4 Operating Systems	5	25	75	100	3	4
		15UCT305	C.P.5 Data Structures and Analysis of Algorithms	5	25	75	100	3	4
		15UCT306	C.P.6 Java Programming	5	25	75	100	3	4
		15UCT3CN	C.Pr.3 Java Programming Lab	5	40	60	100	3	2
		15UCT3A3	Allied 3 - Microprocessors, PC Hardware & Interfacing	6	25	75	100	3	5
	IV	**15UCT3S1**	**Skill Based Subject 1 - Computer Installation & Servicing**	**2**	**25**	**75**	**100**	**3**	**3**

		15TBT301 / 15TAT301 / 15UHR3N 1	**Basic Tamil*/Advanced Tamil**/(or) Non Major Elective I ** **	**2**	**-**	**75**	**75**	**3**	**2**
IV	III	15UCT407	C.P.7 Relational Database Management Systems	5	25	75	100	3	4
		15UCT408	C.P.8 Visual Basic.NET	4	25	75	100	3	4
		15UCT409	C.P.9 Computer Networks	5	25	75	100	3	4
		15UCT4CO	C.Pr.4 Visual Basic .NET and Oracle Lab	6	40	60	100	3	2
		15UCT4A4	Allied 4 – Business Accounting	6	25	75	100	3	5
	IV	**15UCT4SL**	**Skill Based Subject 2 - Computer Installation & Servicing Lab**	**2**	**40**	**60**	**100**	**3**	**3**
		15TBT402/ 15TAT402/ 15UWR4N2	**Basic Tamil*/Advanced Tamil**/(or) Non Major Elective II****	**2**	**-**	**75**	**75**	**3**	**2**
V	III	15UCT510	C.P.10 Software Engineering and Testing	5	25	75	100	3	5
		15UCT511	C.P.11 Client/Server Techniques	6	25	75	100	3	5
		15UCT512	C.P.12 Data Mining and Warehousing	6	25	75	100	3	5
		15UCT5E1	**Elective Paper - I**	**5**	**25**	**75**	**100**	**3**	**5**
		15UCT5CP	C.Pr.5 Software Testing Lab	6	40	60	100	3	2
	IV	**15UCT5S2**	**Skill Based Subject 3 - Open Source Technology-Linux**	**2**	**25**	**75**	**100**	**3**	**3**
		15UCT5SP	**Summer Project**	**Grade ******					
VI	III	15UCT613	C.P.13 Web Programming	6	25	75	100	3	5
		15UCT614	C.P.14 Information Security	5	25	75	100	3	5
		15UCT6E2	**Elective Paper - II**	**5**	**25**	**75**	**100**	**3**	**5**
		15UCT6CQ	C.Pr.6 Web Programming Lab	6	40	60	100	3	2
		15UCT6Z1	Project Work & Viva – Voce***	6	20	80	100	3	4
	IV	**15UCT6SM**	**Skill Based Subject 4 - Shell Programming Lab**	**2**	**40**	**60**	**100**	**3**	**3**
	V	**15NCC/NSS/YRC/PYE101**	**Extension Activities***	**-**	**50**	**-**	**50**	**-**	**1**

@Tamil/Hindi/French/Malayalam/Sanskrit-
15TML/15HIN/15FRN/15MLM/15SAN101-202

* No End-of-Semester Examinations. Only Continuous Internal Assessment (CIA)

** No Continuous Internal Assessment (CIA). Only End-of-Semester Examinations (ESE).

*** Project Report- 60 Marks; Viva-Voce-20 Marks; Internal-20 Marks.

**** Summer Project : Students should do the summer project at the end of fourth semester during summer vacation and submitted the report in the fifth semester. The Project report will be evaluated for 100 marks along with the internal viva voce by the respective internal project guide. According to their marks, the grades will be awarded as given below.

Marks %	Grade
85-100	O
70-84	D
60-69	A
50-59	B
40-49	C
<40	U (Reappear)

Major Elective Papers

(Two papers are to be chosen from the following four papers)

1. Mobile Computing
2. Network Security
3. Cloud computing
4. System software

Non-Major Elective Papers

1. Human Rights
2. Women's Rights

Tally Table:

S.No.	PART	SUBJECT	MARKS	TOTAL MARKS	CREDITS
1.	Part I	Language - Tamil/Hindi/French/Malayalam/Sanskrit	200	200	6
2.	Part II	English	200	200	6
3.	Part III	Core- Theory/Practical/Project	2100	2700	77
		Allied	400		20
		Major Electives	200		10
4.	Part IV	Basic Tamil / Advanced Tamil (or) Non Major Elective	150	650	4
		Skill Based Subjects	400		12
		Environmental Studies	50		2
		Value Education	50		2
5.	Part V	Extension Activities (NSS / NCC / YRC / PYE)	50	50	1
	TOTAL			**3800**	**140**

Note:

CBCS– Choice Based Credit System **NCC** – National Cadet Corps .

NSS – National Service Scheme **YRC** – Youth Red Cross

ESE – End Semester Examination **CIA** – Continuous Internal Assessment

25% CIA is applicable to all theory subjects except JOC and COP Courses, which are considered as extra credit courses.

CIA Theory (25 Marks)	Practical		Project	
	CIA Practical (40 Marks)	ESE Practical (60 Marks)	CIA (20 Marks)	ESE# (80 Marks)
CIA Exam -15	CIA Practical Exam -25	Experiment -50	Project Review -15	Project Report Present - 60
Assignment-5	Observation -10	Record -10	Attendance - 5	Viva-Voce -20
Attendance-5	Attendance -5			

 # Project Report and Viva-Voce will be evaluated jointly by both the project guide and an external examiner.

UCT 1

SEMESTER I 15UCT101

C.P.1 C PROGRAMMING

Credit Points: 4 Total Hrs.:75 Hrs.

Objective:

After completion of this paper, the students can grasp the knowledge in

- Basic Programming Languages
- Understanding the concept of C Program.
- Familiarize the basic syntax and semantics of C Language
- Understanding the concept of Array, Pointer and Graphics

UNIT-I 15 Hours

Overview of C : History of C – Importance of C- Sample programs – Basic Structure of C programs – Programming style. Constants, Variables and Data types: Character set – C Tokens – Keywords and Identifiers – Constants – Variables – Data types – Operators and Expressions– Type conversions in Expressions – Operator precedence and Associativity. Managing Input and Output operations: Reading and Writing Character-Formatted Input – Formatted Output.

UNIT-II 15 Hours

Decision making and Branching: Decision making with if statement – Simple if statement – The if ….else statement-Nested If-Else-If Ladder – The Switch statement. looping: The while statement – The do statement – The for statement – **Jumps in loops***.

UNIT-III 15 Hours

Arrays : Introduction – one dimensional Arrays – Declaration of one dimensional Arrays – Initialization of one dimensional Arrays – Two dimensional Arrays – Initializing Two dimensional Arrays – Multidimensional Arrays. Character Arrays and Strings: String handling functions.

User defined functions: Definition of Functions – Function Declaration – Category of Functions – No Arguments and No Return values – Arguments but No Return values – Arguments with Return values – No Arguments but Returns

a value- Functions that Return Multiple Values- Recursion – Passing Arrays to Functions – The Scope, Visibility and Lifetime of Variables.

UNIT-IV **15 Hours**

Pointers : Understanding pointers –Accessing the Address of the Variable- Declaring pointer variables – Pointer and Arrays- Pointers and Character strings – Array of pointers –Pointers as Function Arguments- Functions returning pointers.

The Preprocessor : Macro Substitution – File Inclusion - Compiler Control Directives.

UNIT-V **15 Hours**

Structures and Unions: Introduction – Defining a Structure – Declaring Structure variables – Structure Initialization –Array of Structures-Arrays with in Structures-Structures with in Structures– **Unions***.

File Management in C: Defining and Opening a File – Closing a File – Input/Output Operations on Files – Command Line Arguments.

***Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. E. Balagurusamy , "Programming in ANSI C " , Tata McGraw Hill, Fifth Edition -2011. **(UNIT-I, II, III, IV and V)**

REFERENCE BOOKS:

1. Ashok N Kamthane , "Programming with Ansi and Turbo C", Pearson Education Pub,2007.

2. P.J.Deitel and H.M.Deitel, "C How to Program", Tata McGraw Hill ,Fifth Edition, -2008.

UCT 3

SEMESTER I **15UCT1CL**

C.Pr.1 C PROGRAMMING LAB

Credit Points: 2 **Total Hrs.:75 Hrs.**

1. Write a Program to find the roots of a Quadratic Equation.

2. Write a program to find the sum, average, standard deviation for a given set of numbers.

3. Write a program to find the number of palindromes in a given sentence.

4. Write a function to perform (a) String copy (b) String concatenation and (c) Reversing the string.

5. Arrange a set of numbers in ascending order using bubble sort.

6. Write a program to convert decimal to binary using recursive function.

7. Write a C program to perform following operation
   - ✓ Read two integer arrays with unsorted elements
   - ✓ Sort them into ascending order
   - ✓ Merge the sorted arrays and print the elements

   Using function to carry out above tasks.

8. Write a generalized program to perform matrix operation.

9. Write a program to print the student's mark sheet assuming rno,name, and marks in 5 subjects in a structure. Create an array of structures and print the mark sheet in the university pattern.

10. Define a macro to perform Telephone bill operation using macro.

11. Write a program to manipulate array elements using Pointers.

12. Write a program to remove vowels in a given string using pointers.

13. Write a program to perform all manipulations like insertion, deletion and modification in files.

14. Write a program which takes a file as command line argument and copy it to another file. At the end of the second file write
    - ✓ Number of characters
    - ✓ Number of words
    - ✓ Number of lines

15. Write a C program to draw the line, rectangle, square and circle using graphics methods.

16. Write a program to perform inventory control.

Guidelines to the distribution of marks for Practical Examinations:

Two Questions will be given for each student. (3 Hours/60 marks)

Record: 10 Marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Program Coding & Execution	15	15
Modifications	5	5

SEMESTER II 15UCT202

C.P.2 DIGITAL FUNDAMENTALS AND COMPUTER ORGANIZATION

Credit Points: 4 **Total Hrs.: 45 Hrs.**

Objective:

- The students should get the Knowledge about the Digital Circuit, Memory Concept and Number System
- To learn the concept of Multiplexing, Flip-flops and Registers
- Familiarize with basic building blocks of Digital Systems.

UNIT I **9 Hours**

Digital Computer And Digital Systems - Binary Numbers - Number Base Conversion - Octal and Hexa Decimal Numbers - Complements – 9's,10's,1's and 2's complements- Binary subtraction - Code's- BCD, GRAY, Excess of 3 codes, Error Correcting Codes

UNIT II **9 Hours**

Boolean Algebra And Logic Gates: Basic Definitions - Boolean Functions - Digital Logic Gates - simplifications - NAND and NOR implementation - Product of Sums - Sum of Products - Canonical And Standard Forms – Min term and Max term - The KMap Method - Don't Care Conditions (up to four variables)

UNIT III **9 Hours**

Introduction - Adders – **Subtractors*** - Binary Parallel Adder - Decimal Adder- Decoder-Encoder- Multiplexers – De- Multiplexers. Flip Flops: - Introduction – RS, JK, D - Flip Flops- excitation tables - Design counters – Ripple counters - Registers - Shift Registers

UNIT IV **9 Hours**

Programming the Basic Computer : Introduction-Machine Language – Assembly Language. Central Processing Unit(CPU) : Introduction – General Register Organization – Control Word – Stack Organization – Memory Stack –

Instruction Format – Addressing Modes – Status Bit Condition – Conditional Branch Instruction

UNIT V **9 Hours**

Peripheral devices - I/O interface - Synchronous and Asynchronous data transfer - DMA - IOP. Microcomputer memory - Auxiliary memories & Primary Memories: **RAM, ROM*** –Associative memory - Cache memory.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Morris Mano ,"Digital Logic and Computer Design**" ,**Tata McGraw Hill, Thirteenth impression **,**2011 **(UNIT I, II and III)**

2. Morris Mano ,"Computer System Architecture**"** ,Tata McGraw Hill, Eighth Impression 2011. **(UNIT IV,V)**

REFERENCE BOOKS:

1. Thomas C. Bartee, "Digital Computer Fundamentals", McGraw Hill International Edition Sixth Edition, Thirteeth reprint , 2008.

2. John P Hayes, "Computer Architecture and Organization ", McGraw Hill International ,Third Edition , 1998.

3. Leach Malvnio, "Digital Principles & Application", Tata McGraw Hill, Fifth Edition, 2005.

SEMESTER II **15UCT203**

C.P.3 OBJECT ORIENTED PROGRAMMING WITH C++

Credit Points: 4 **Total Hrs.:60 Hrs.**

Objective:

- To know the Object Oriented Programming Language concepts
- Idea about functions, Overloading and Constructors
- To develop the programming knowledge in pointers and files

UNIT-I 12 Hours

Principles of OOP: Software Evolution-Procedure versus oops-Basic concepts of oops-Benefits of oops-Object Oriented Languages-Applications of oops.
Beginning with C++: History-Simple C++ Program-Structure of C++ Program. Tokens, Data types, Reference Variables-Typecasting-Operators-Control Structures. Functions: Function Prototyping-Call by reference-Return by reference-Inline function-Default arguments-Function Overloading.

UNIT-II 12 Hours

Classes & Objects: Specifying a class-Defining member function-Member allocation for objects-Static member-Array of objects-Object as function arguments-friend functions-returning objects-pointers to members.
Constructors & Destructors: Constructor and its types-**Destructors*.**

UNIT-III 12 Hours

Operator Overloading: Definition-Overloading unary and binary operators-Manipulation of strings using operators-Rules for operator overloading-Type conversions. Inheritance: Introduction-Defining derived classes-Types of inheritance-Virtual base classes-Abstract-Constructors in derived classes.

UNIT-IV **12 Hours**

Pointers: Declaration-Pointers to objects-Pointers to derived class-this pointer-Polymorphism & virtual functions. Managing console i/o operations-Formatted & Unformatted i/o – **Manipulators***.

UNIT –V **12 Hours**

Files:Classes for file stream operations-Opening and closing a file-Detecting eof-Manipulation of file pointers-Sequential i/o operations-Command line arguments. Templates:Class template-Class template with multiple parameter-Function template-Function template with multiple parameter.

Exception handling: Basics of exception handling-Exception handling mechanism-Try, Catch, Throw.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. E.Balagurusamy ," Object Oriented Programming with C++ ", Tata McGraw Hill, Fifth Edition, Reprint 2012.

REFERENCE BOOKS:

1. Ashok N Kamthane, "Object Oriented Programming with ANSI and Turbo C++", Pearson Education Publications, 2003.

2. Yashavant Kanetkar,"Introduction to Object Oriented Programming and C++", BPB Publications, First Edition, 2004.

SEMESTER II **15UCT2CM**

C.Pr.2 C++ PROGRAMMING LAB

Credit Points: 2 **Total Hrs.:45 Hrs.**

1. Create two classes which consist of two private variables, one Integer and one Float variable in each class. Write member functions to get and display them. Write a FRIEND function common to arguments and the Integer and Float values of both the objects separately and display the result.

2. Create a class ARITH that consists of a FLOAT and an INTEGER variable. Write member functions ADD( ) , SUB( ) , MUL( ) , DIV( ) , MOD( ) to perform addition, multiplication, division and modulus respectively. Write member functions to get and display values.

3. Write an efficient C++ function that takes two strings as arguments and removes the characters from first string, which are present in second string (mask string).

4 .Write a C++ program for Banking System. Initial balance and rate of interest are initialized using the constructor.

(i) Deposit the Amount
(ii) Withdraw the amount
(iii) Interest Calculation
(iv) Display the result.

5. Write a program to perform function overloading and this pointer

6. Create a class MAT has a 2-Dmatrix and R & C represents the rows and columns of the matrix. Overload the operators +,-,* to add, subtract and multiply two matrices. Write member functions to get and display MAT object values.

7. Create a class STRING. Write member functions to initialize , get and display strings . Overload the operator + to concatenate two strings, = = to compare 2 strings and a member function to find the length of the string.

8. Create a class which consists of EMPLOYEE detail like eno, ename, dept, basic salary, grade. Write member functions to get and display them. Derive a class PAY from the above class and write a member function to calculate DA, HRA, PF, depending on the grade and display the Pays lip in a neat format using console I/O.

9. Write a C++ program to perform multiple inheritance.

10. Create a class SHAPE which consist of two VIRTUAL FUNCTIONS Cal_Area( ) and Cal_PERI( ) to calculate Area and Perimeter of various figures. Derive three classes SQUARE, RECTANGLE and TRIANGLE from the class SHAPE and calculate Area and Perimeter of each class separately and display the result.

11. Define a User define function and perform library operations.

12 Write a program to perform Insertion, Deletion and Updation using files.

13. Write a program which takes a string and file name as argument and copies in to another file with string manipulations using Command Line Arguments.

14. Write a program to create function and class templates.

15. Write a program to perform exception handling using visual C++

16. Write a C++ program to prepare a simple budget.

Guidelines to the distribution of marks for Practical Examinations:

Two Questions will be given for each student. (3 Hours/60 marks)

Record: 10 marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Program Coding & Execution	15	15
Modifications	5	5

SEMESTER III **15UCT304**

C.P.4 OPERATING SYSTEMS

Credit Points: 4 **Total Hrs.:75 Hrs.**

Objective:

Students should get the knowledge in

- Basic concepts of operating systems, Storage Management and Processes.
- Windows and Linux operating systems

UNIT-I 15 Hours

Introduction & process Concept: Definition of DOS – Early History-History of DOS & UNIX OS-Definition Of Process-Process states-process states transition -Interrupt processing –interrupt classes-context switching-semaphores-deadlock & indefinite postponement.

UNIT-II 15 Hours

Storage Management Real Storage: Real storage management strategies - Contiguous Vs non-contiguous storage allocation - Single User Contiguous Storage allocation-Fixed partition multiprogramming - Variable partition multiprogramming, Multiprogramming with storage swapping.
Virtual storage: Virtual storage management strategies- Page replacement strategies - Working sets - Demand paging - Page size.

UNIT-III 15 Hours

Processor Management Job and Processor Scheduling: Preemptive Vs Non-preemptive scheduling - Priorities - Deadline scheduling – **FIFO*** - RR - Quantum size – **SJF*** - SRT - HRN. Distributed computing: Classification of

sequential and parallel processing - Array processors - Dataflow computers - Multiprocessing - Fault Tolerance.

UNIT-IV **15 Hours**

Device and Information Management Disk Performance Optimization: Operation of moving head disk storage – Need for disk scheduling – Seek Optimization – FCFS – SSTF – SCAN – RAM Disks – Optical Disks. File and database systems: File System – Functions – Organization – Allocating and freeing space – File descriptor – Access control matrix.

UNIT-V **15 Hours**

Case Studies: Windows Vista: History of Windows Vista – Programming Windows Visa – Memory Management – Security in Windows Vista.
Linux: Overview of Linux- Processes in Linux – Memory Management – Security in Linux.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. H.M.Deitel, "Operating Systems", Pearson Education Publication, Second Edition, 2003**. (Unit I to Unit IV)**
2. Tanenbaum, "Modern Operating Systems", PHI Learning Private Ltd, Third Edition, 2011**. (Unit V)**

REFERENCE BOOK:

1. Achyut S Godbole, "Operating Systems", Tata MCGraw Hill Publication-2006.

SEMESTER III 15UCT305

C.P.5 DATA STRUCTURES AND ANALYSIS OF ALGORITHMS

Credit Points: 4 Total Hrs :75 Hrs.

Objective:

- Describe and implement the advanced data structures.
- Demonstrate Knowledge in different methods for representing a graph.
- Analyze the asymptotic performance of algorithms.
- Apply important algorithmic design paradigms and methods of analysis.

UNIT-I 15 Hours

Introduction-Data structure-definition-How to create a program-How to analyze a program-Arrays-Order List –Sparse Matrices-Representation of Arrays-Stacks and Queues- Fundamentals- Evaluation Expression-Multiple Stacks and Queues.

UNIT-II 15 Hours

Linked Lists-Singly Linked List-Linked Stacks and Queues-Storage pool-Polynomial Addition-More On Linked List-Sparse Matrices-Doubly Linked Lists and Dynamic Storage Management-Garbage Collection and Compaction.
Tress: Basic Terminology-Binary Trees-binary Tree representation-Binary Tree Traversal-Threaded binary tree-Counting Binary trees.

UNIT-III 15 Hours

Graphs: Terminology and representation-Introduction –Definition and Terminology-Graph Representation – Traversals-Connected components and spanning Trees -Shortest path-Transitive Closure

Internal Sorting- Insertion sort - Quick sort - Merge sort - Heap sort –Radix sort. External Sorting-sorting with Tapes, Sorting with Disks.

UNIT-IV **15 Hours**

Symbol Tables-Static tree tables-Dynamic tree tables-Hash tables- Hashing Functions-Overflow Handling.

Files: Files-Queries– Sequential organization - Index Techniques – File organization

UNIT-V **15 Hours**

Introduction: Algorithms – Analysis of algorithms – Best case and worst case complexities, Analysis of some algorithms using simple data structures, amortized time complexity. Dynamic programming: The General Method – Multistage Graphs - All pairs shortest path problem – Traveling sales Person problem.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Ellis Horowitz, Sartaj Shani, “Fundamentals of Data Structures”, Galgotia Publication Edition 1, 1994 **(Unit I to Unit IV)**

2.Ellis Horowitz, Sartaj Sahni and Sanguthevar Rajasekaran, ” Fundamentals of Computer Algorithms”, 2/e Hyderabad Universities Press (India) Private Limited, (2008) **(Unit V)**

REFERENCE BOOK:

1. Robert Kruse, C.L, Jondo Bruce Leung , “Data Structures and Program Design in C ” ,Pearson Edition Asia, Second Edition,1999.

SEMESTER III **15UCT306**

C.P.6 JAVA PROGRAMMING

Credit Points: 4 **Total Hrs :75 Hrs.**

Objective:

- Familiarize the concept of standard application and web based application
- To develop their programming skill
- Completion of this subject students should known all the basic java concepts

UNIT-I **15 Hours**

JAVA Revolution: OOPS Concept- History – Features – How Java differs from C and C++ - Java and Internet. Overview of Java Language: Introduction – Simple Java program – Structure – java Tokens – Statements-Java virtual Machine-Constants- variables – Data types – Operators and Expressions.

UNIT-II **15 Hours**

Flow Control : Branching – Looping*. Classes : Introduction – Object References- Instance Variables – the New Operator – Dot Operator – Method Declaration – Method Calling – Constructor- Method Overloading – this keyword – Final – Finalize – Static.

UNIT-III **15 Hours**

Arrays- Strings – String Tokenizer.

Inheritance: Introduction-Types of Inheritance. Interfaces: Multiple Inheritances. Packages: Putting classes together – Multi Threaded Programming- Managing Errors and Exceptions

UNIT-IV **15 Hours**

Applet programming–Graphics programming-Color-Font.

Files: Introduction – Concept of Streams – Stream classes – Using streams – I/O classes- File class – I/O Exceptions – creation of files- Reading/Writing characters /Bytes- Handling primitive data types – Random Access Files.

UNIT-V **15 Hours**

AWT – Introduction – AWTClasses – Container – Panel – Frame - Canvas-Labels – PushButtons – CheckBoxs – ChoiceList – List – ScrollBar - TextArea-TextField-MenuBar.

Event Handling-KeyEvent-MouseEvent-MouseWheelEvent.

Interface-KeyListener-MouseListener-MouseMotionListener-ActionListener-MouseWheelListener.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. E.Balagurusamy, "Programming with Java – A Primer", Tata McGrawHill, Fourth Edition,2010. **(Unit I, III and IV)**

2. Patrick Naughton, "Java Hand Book", TataMCGraw Hill 2006 . **(Unit II and V)**

REFERENCE BOOKS:

1. Patrick Naughton and Herbert Schildt, 'The Complete Reference Java 2", Tata MCGraw Hill Publication, Fifth Edition-2008.

2. C.Xavier, 'Programming with Java 2", Scitech Publication, First Edition 2006.

UCT 18

SEMESTER III 15UCT3CN

C.Pr.3 JAVA PROGRAMMING LAB

Credit Points: 2 **Total Hrs.:75 Hrs.**

1. Write a java program to perform string functions using constructor.

2. Write a java program to prepare a student mark statement using user defined package.

3. Write a java program to prepare telephone bill using multiple inheritance.

4. Write a program to perform thread concept.

5. Write a java program to illustrate String Tokenizer concept

6. Write a program to perform Stack Operation .

7. Write a program to perform Queue Operation.

8. Write a program to implement linear and binary search to find the particular name in a list of names.

9. Write a program to perform predefined exception and user defined exception.

10. Write a program to create an applet and add the two integer values.

11. Write a program to perform inventory control using AWT components.

12. Write a java program to copy a content (byte) from one file to another.

13. Write a java program to perform MouseEvent operations

14. Write a Java program to demonstrate the multiple selection list box.

15. Write Java program to create a menu bar and pull down menus.

16. Write a Java program to create a window when we press M/m the window displays Good Morning, A/a the window displays Good Afternoon, E/e the window displays Good Evening, N/n the window displays Good Night.

17. Write a program to move different shapes (Circle, Ellipse, Square, Rectangle) according to the arrow key pressed.

Guidelines to the distribution of marks for practical Examinations:

Two Questions will be given for each student. (3 Hours/60 marks)

Record: 10 marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Program Coding & Execution	15	15
Modifications	5	5

UCT 20

SEMESTER IV 15UCT407

C.P.7 RELATIONAL DATABASE MANAGEMENT SYSTEMS

Credit Points: 4 **Total Hrs.:75 Hrs.**

Objective:

- This subject should develop the knowledge in various Database concepts, queries, normalization and reports.
- After completion of this subject student themselves to construct new database.

UNIT-I **15 Hours**

Introduction: Purpose of Database Systems - View of Data - Data Models - Database Languages - Transaction Management - Storage Management Database Administrator - Database Users - System Structure. Entity Relationship Model: Basic concepts – keys-Mapping Cardinalities - Entity Relationship Diagram, Weak Entity sets, E-R Features - Specialization, Generalization - Relational Model: Structure of Relational Databases - Relational Algebra - Views.

UNIT-II **15 Hours**

Interactive SQL : Invoking SQL * Plus- data definition- data manipulation in DBMS – The oracle data types –DML and DDL statements-Data constraints-arithmetic, logical operators- oracle functions- grouping data from tables-manipulating dates- union, intersect and minus clause-Granting permissions-Revoking permissions- Codd's Rules.

UNIT-III **15 Hours**

SQL **Set Operations***- Aggregate Functions - Null values - Nested Sub queries - Derived Relations - Views - Joined Relations .

UNIT-IV **15 Hours**

PL/SQL: **Introduction***, PL/SQL syntax, understanding PL/SQL block structure, oracle transactions, cursors, stored procedures, stored functions, database triggers – Creating Default Tabular Report.

Integrity Constraints: Domain Constraints: Domain Constraints - Referential Integrity - Assertions – Triggers.

UNIT-V **15 Hours**

Functional Dependencies. Relational Database Design: Pitfalls – Normalization (up to 3rd normal form). Object Oriented Databases: New Database Applications – Object Oriented Data Model - Object Oriented Languages - Persistent Programming Languages.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "Database System Concepts", Tata McGraw Hill , Fifth Edition –2006. **(Unit I, IV, V)**

2. Ivan Bayross, "Commercial application development using ORACLE developer 2000" First Edition, 2007 **(Unit II,III)**

REFERENCE BOOKS:

1. Bipin.C.Desai, "An Introduction to database systems", Galgotia Publication, First Edition 2000

2. Ivan Bay Ross, "Oracle 7 The Complete Reference", BPB Publications,First Edition, Chennai.

SEMESTER IV **15UCT408**

C.P.8 VISUAL BASIC. NET

Credit Points: 4 **Total Hrs.:60 Hrs.**

Objective:

To familiarize the concept of .NET framework and to develop their .NET programming skill

UNIT-I **12 Hours**

Introduction to Visual Basic – steps in VB application – Integrated development environment (IDE) – Menu Bar – Tool bars – Project Explorer window – Property Window – Form layout window – Tool boxes –Creating and using Standard Controls – code window – Properties, Methods and Events – Event Driven Programming.

UNIT-II **12 Hours**

Essential Visual Basic – Upgrading from Visual Basic - .Net Frame work and the CLR –IDE – Building VB.Net Applications. Operators– Conditionals and Loops.

UNIT-III **12 Hours**

Windows Forms – Adding Controls – Handling Events – Creating MDI applications – Textboxes, Rich Text boxes, Labels – Buttons, Check boxes, Radio buttons, panels and Group boxes – List box, **Checked list box***, Combo box and Picture boxes, Scroll bars, Splitters, Track Bars, Pickers, Notify Icons, Tool tips and Timers.

UNIT-IV **12 Hours**

Windows Forms – Menus – Built in Dialog Boxes – Image list, Tree and **List view***.

File Handling-FileStream class–Opening 0r Creating a File with the FileStream class-StreamWriter class-Writing Text with the StreamWriter Class-StreamReader class-Reading Text with the StreamReader Class.

UNIT-V **12 Hours**

Data Access with ADO.net – binding controls to database – Handling Database in Code:The OleDbConnection Class-The SqlConnection Class-The OracleConnection Class-The OleDbCommand Class-The SqlCommand Class-The OracleCommand Class-The OleDbDataAdapter Class-The SqlDataAdapter Class.

Advanced Controls and Making Reports in VB.Net: Making Reports in VB.Net.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Gary Cornell," Visual Basic 6 from the ground up", Tata McGraw Hill-2008.

2. Steven Holzner, "Visual Basic.NET Black Book", Dream Tech, First Edition,2005.**(UNIT II - V)**

3. P.Radhaganesan, "VB.Net", 2006, 2nd Print, Scitech Publication(India) Pvt.Ltd**(UNIT-V)**

REFRENCE BOOKS:

1. Evangelos Petroustes, "Mastering Visual Basic.NET", BPB Publications, First Edition, 2002.
2. Bill Evjen Beres, et al. "Visual Basic.NET programming Bible", Wiley – DreamTech, Reprint, 2002.

SEMESTER IV 15UCT409

C.P.9 COMPUTER NETWORKS

Credit Points: 4 **Total Hrs.:75 Hrs.**

Objective:

- Knowledge about the Network Communication, Routing Algorithm and Network Security

UNIT-I **12 Hours**

Introduction: Uses of computer networks-Network Hardware – Network Software – Reference Models.

UNIT-II **15 Hours**

The Physical layer: Guided transmission media – Communication satellites – The Public Switched telephone network: Structure of the telephone system – The local loop : modems, wireless local loops – Switching-**Cable Television**-Community Antenna Television-Internet Over Cable-Cable Modem.

UNIT-III **16 Hours**

The Data link layer: **Data link layer design issues* -**The Medium access control sub layer: The channel allocation problem – Multiple access protocols: ALOHA-Carrier sense multiple access protocols, collision-free protocols, Limited-Contention protocols – Data link layer switching: repeaters, hubs, bridges, switches, routers and **gateways***.

UNIT-IV **16 Hours**

The Network layer: Network layer design issues – Routing algorithms: The optimality principle, shortest path routing, distance vector routing, routing for mobile hosts, link state routing, hierarchical routing, broadcast routing and multicast routing.

The Transport layer: The Transport service: Services provided to the upper layers, transport service primitives, Berkeley sockets – Elements of Transport protocols.

UNIT-V **16 Hours**

The Internet Transport Protoclos: UDP-Introduction to UDP-Remote Procedure Calls-TCP-Introduction to TCP.

The Application layer: DNS – The Domain Name System – Electronic mail: Architecture and services, the user agent.

Network Security: Cryptography – DES – RSA-Digital Signatures: Symmetric-Key Signatures, Public-Key signatures.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. Andrew S. Tanenbaum, "Computer Networks", Pearson Education Publication Fourth Edition, -2003.

REFERENCE BOOKS:

1. Behrouz A. Forouzan, "Data Communications And Network", Tata MCGraw Hill, Second Edition,2003.

2. William A shay, "Understanding data communications and networks", Vikas publishers ,Second Edition, 2001.

SEMESTER IV 15UCT4CO

C.Pr.4 VISUAL BASIC .NET AND ORACLE LAB

Credit Points: 2 Total Hrs.:90 Hrs.

VISUAL BASIC. NET

1. Develop a program using basic tools in VB.
2. Develop simple notepad application using tool bar.
3. Perform Matrix Multiplication using Arrays Concept in Console Application
4. Perform arithmetic operations using Enumeration Concepts in Console Application.
5. Program for various font applications in Windows Application.
6. Program to simulate a simple calculator in Windows Application.
7. Program to simulate a digital clock with reset option in Windows Application.
8. Program for a notepad application in Windows Application.
9. Program to maintain student details in Windows Application.
10. Program to maintain Employee details in Windows Application.
11. Program to maintain sales details in Windows Application.
12. Program for hotel management in Windows Application.
13. Program to read and write text file by File Handling concept.

ORACLE

12. Create a student mark list contains the following fields r_no(PK),name, course, Mark1,mark2,mark3,mark4. And insert the required fields.

a).Alter the table to add total and average fields with required size.

b).Modify to increase the total field size.

c) Calculate the total and average.

13. Create a employee table contains the following fields emp_no (PK) emp_Name,emp_address,city,pincode,emp_Age,emp_phone,emp_Dep,emp_Des, emp_Salary .

a).Display the employee details. Who are all getting salary above 5000.

b). Display the employee name and address, where the city “Coimbatore” or “Chennai”.

c). Display the employee name ,who are all coming from city “Coimbatore” and pin code 641029 or 641001.

d). Display the employee details in descending order based on name.

14. Create a employee table contains the following fields emp_no (PK) emp_Name,emp_address,city,pincode,emp_Age,emp_phone,emp_Dep,emp_Des, emp_Salary.

a). Display the employee details in order by department.

b). Creation of reports using Column format.

c) To find the Maximum and minimum salary.

d) To displays the employee names in upper case.

15. Write a oracle query to retrieve the employee details using Key concept(PK and FK). Employee_Personal table contains the following fields emp_no(PK)emp_Name,emp_address,city,pincode,emp_Age,emp_phone,emp_Dep,emp_Des.Employee_Salary table contains emp_no(FK),B_salary, HRA,DA,LIC,Gross_Pay, Net_Pay .

16. Write a necessary queries to perform oracle built-in functions.

17. Write PL/SQL block to prepare electricity bill.

18. Write PL/SQL block:

a) Find the sum of individual number.

b).Find the given number is Armstrong number or not.

19. To creates the Data base Triggers to check the validity of records.

20. Develop a Simple Project for Library Management System using VB as front end and ORACLE as back end and create a Crystal report.

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Guidelines to the distribution of marks for practical Examinations:

Two Questions will be given for each student. (3 Hours/60 marks)

Record: 10 marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Program Coding & Execution	15	15
Modifications	5	5

SEMESTER V 15UCT510

C.P.10 SOFTWARE ENGINEERING AND TESTING

Credit Points: 6 **Total Hrs.:90 Hrs.**

Objective:

- Understand the basic concepts of Software Development Life Cycle.
- Familiarize the different models, testing and significant.

UNIT-I **18 Hours**

Introduction – The evolving role of s/w – s/w crisis – s/w myths – s/w engineering technology – the s/w process – s/w process models – the prototyping model.

UNIT-II **18 Hours**

Requirements engineering – System modeling – requirements analysis and elicitation for s/w – s/w prototyping – specification – mechanics of structured analysis – data dictionary –elements of analysis model- data modeling – functional modeling and information flow.

UNIT-III **18 Hours**

Object oriented design – design for object-oriented systems-**the system design process** * – s/w design and s/w engineering – the design process- design principles-design concepts – effective modular design – design heuristics for effective modularity.

UNIT-IV **18 Hours**

Types of testing: White box testing–static testing – structural testing – Challenges in white box testing

Black Box Testing: What, How to do Black box testing – Requirement based testing – Positive and Negative Testing – Boundary Value Analysis – Decision Tables – Equivalence partitioning – State Based or graphic Based Testing – Compatibility Testing – User Documentation – Domain Testing.

UNIT-V **18 Hours**

Integrating Testing: Introduction - Integration Testing as a Type of Testing – Integration Testing as a phase Testing – Scenario Testing – Defect Bash

System and Acceptance Testing: Introduction – Functional Versus Non – Functional System Testing – Functional System Testing – Non - Functional System Testing - Acceptance Testing.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Roger S Pressman, "Software Engineering", TMH Publishers ,Sixth Edition, 2005. **(UNIT – I to UNIT – III)**

2. Srinivasan Desikan and Gopalaswamy Ramesh "Software Testing Principles and practices " , Dorling Kindersely (India) Pvt ltd., 2008, **(UNIT – IV , UNIT – V)**

REFERENCE BOOKS:

1. Watts S Humphrey , "A discipline for Software Engineering", Pearson Education Publishers, First Edition, 2008.

2. Ian Somerville, "Software Engineering", Seventh Edition, Pearson Education Pub,2007.

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SEMESTER V 15UCT511

C.P.11 CLIENT/SERVER TECHNIQUES

Credit Points: 5 Total Hrs.:75Hrs.

Objective:

- To enhance students to understand the role of both server and client in sending and receiving data over a network.

UNIT I 15 Hours

Client – Server computing – What is Client / Server? – File servers, database servers, Transaction servers, Groupware servers, Object servers, Web servers – FAT servers or client / server ***** – Client / Server building blocks.

UNIT II 15 Hours

Client / Servers and Operating Systems – The Anatomy of a server program – Needs of Client / Server from an OS – Server Scalability – Client anatomy – Client and server OS trends – Client OS and Server OS. NOS: Creating the single system image – Peer-to-Peer Communication-Remote Procedure Calls (RPC) – Messaging and Queuing: The MOM Middleware- **MOM vs RPC***

UNIT III 15 Hours

SQL Database Servers: Fundamentals of SQL and Relational Databases-What does SQL do? –Stored procedures, Triggers and Rules. Data warehouses – OTP (Online Transaction Processing) – Decision Support Systems (DSS) – Executive Information System (EIS) – The

UNIT IV 15 Hours

Client / Server Transaction Processing – The ACID properties – Transaction Models – TP monitors – Client / Server groupware – Importance of Groupware– What is Groupware – The components of Groupware. Distributed Objects,

CORBA Style Object management architecture – Compound Documents –The compound document framework.

UNIT V **15 Hours**

Web client / server – What is URL? – Shortest HTML tutorial – HTTP – 3 tier client / server – HTML web based forms – CGI : The server slide of the web – web security – The internet and the intranets – **Java and Hot Java***- Applet Components- Compound documents and the object web – The DCOM / OLE Object Web – The CORBA object web.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. Robert Orfali, Dan Harkey & Jeri Edwards, - " The Essential Client / Server Survival Guide", Galgotia Publication Private Limited, Second Edition, 2002.

REFERENCE BOOKS:

1. Dawna Travis Dewire, -" Client / Server Computing ",Tata McGraw-Hill,INC publications,First Edition 2007.

2. Patrick Smith , Steve Guengerich "Client / Server Computing" Second Edition,PHI Pub.,2002.

3. Steven M. Bobrowski, - "Mastering Oracle 7 And Client/Server Computing",BPB Publications

UCT 33

SEMESTER V 15UCT512

C.P.12 DATA MINING AND WAREHOUSING

Credit Points: 5 **Total Hrs.:90 Hrs.**

Objective:

- To develop the knowledge about Data Warehousing, Data Mining and KDD process.
- To understand the different techniques in Data Mining.

UNIT I **18 Hours**

Basic Data Mining Tasks -Data Mining Versus Knowledge Discovery in Databases –Data Mining Issues –Data Mining Matrices –Social Implications of Data Mining –Data Mining from Data Base Perspective.

UNIT II **18 Hours**

Data Mining Techniques –a Statistical Perspective on data mining –Similarity Measures–Decision Trees –Neural Networks –Genetic Algorithms.

UNIT III **18 Hours**

Classification: Introduction –Statistical –Based Algorithms –Distance Based Algorithms –**Decision Tree*** –Based Algorithms –Neural Network Based Algorithms –Rule Based Algorithms –Combining Techniques.

UNIT IV **18 Hours**

Clustering: Introduction –Similarity and Distance Measures –Outliers-Hierarchical Algorithms- Association Rules: Introduction- Large Item Sets –Basic Algorithms –Parallel and Distributed Algorithms .

UNIT V **18 Hours**

Delivery process : Introduction – Datawarehouse delivery method. System processes: Overview – typical process flow within a data warehouse – Extract and load process – clean and transform data – Backup and archive process – Query management process.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS :

1.Margaret H.Dunbam ,"Data Mining Introductory and Advanced Topics", Pearson Education, 2003. **(UNIT –I to UNIT –IV)**

2. Sam Anahory, Dennis murray , "Data warehouse in the real world – practical guide for building decision support system", Second Impression , 2007 **(UNIT –V).**

REFERENCE BOOK:

1.Jiawei Han & Micheline Kamber," Data Mining Concepts and Techniques", Academic Press, 2001

SEMESTER V **15UCT5CP**

C.Pr.5 SOFTWARE TESTING LAB

Credit Points: 2 **Total Hrs.:90 Hrs.**

1. Display the user entered data on MS Excel application for default.
2. Display the user entered data for a specific field.
3. Draw some picture using paint and record in Analog Mode.
4. Perform the synchronization checkpoint for VB application.
5. Data driven Wizard for checking multiple fields.
6. Verify the text area application for an application.

Guidelines to the distribution of marks for practical Examinations:

Two Questions will be given for each student. (3 Hours/60 marks)

Record: 10 marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Test Case	5	5
Test Result	10	10
Modifications	5	5

SEMESTER VI **15UCT613**

C.P.13 WEB PROGRAMMING

Credit Points: 5 **Total Hrs.:90 Hrs.**

Objective :

- To understand the concept of web programming and web services and to develop their web designing skill.
- Students themselves can create a website by their own.

UNIT-I 18Hours

Introduction to computers and the Internet: **history of the world wide web*** - Hardware trends - Key software trend: object technology - Java script: object based scripting for the web - Browser portability.

Introduction to XHTML: Introduction – Editing XHTML-Headers – linking – images - special characters and more line breaks - unordered lists- ordered lists

Intermediate XHTML- Introduction-basic XHTML tables-intermediate XHTML tables and formatting-basic XHTML forms-internal linking-creating and using image maps - FRAMESET Elements – Nested Frameset.

UNIT-II 18 Hours

Cascading Style Sheet (CSS): Introduction-Inline Styles-Embedded style sheet Conflicting Styles-Linking External Style Sheets-Positioning Elements-Backgrounds-Element Dimensions-Text flow and the box model-user style sheets.

Dynamic HTML: Event model: Introduction-event ON CLICK-event ON LOAD--Tracking the mouse with event ON MOUSE MOVE-rollovers with ON MOUSE OVER and ON MOUSE OUT – Form Processing with ON FOCUS and ONBLUR-more form processing with ON SUBMIT and ON RESET

UNIT-III **18 Hours**

Java script: Introduction to java scripting - Arithmetic – Decision Making – Equality and Relational Operators –Assignment Operator - Increment & Decrement Operators – Note on Data Types. Control Statements I - Control Statements II – Functions – Arrays.

JavaScript Objects : Introduction – Thinking about Objects – Math Object – **String Object** *– Date Object –Document Object – Window Object.

VB Script – Scripting – VB Script – Data types – inserting script in HTML document- client side and server side script – converting variable types – operators – Date and Time function – Math function – program control statement.

UNIT-IV **18 Hours**

Web Servers: Client side scripting versus server side scripting – Accessing Web Servers - Microsoft Internet Information Services – Apache Server.

Active Server Pages (ASP): Introduction - How ASP works - ASP Objects - File System Objects - Session tracking and cookies – Active Data Objects - accessing a database from an ASP.

UNIT-V **18 Hours**

XML: Introduction –Structuring data – XML name space – DTDs and Schemas – XML vocabularies – document object model (DOM) – DOM methods – simple API for XML – Extensible style sheet language (XSL) – simple object access protocol (SOAP) – Web services.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Deitel, Deitel, GoldBerg, ”Internet and World Wide Web-How to program ”, Prentice Hall of India Pvt Ltd., Third Edition. **(Unit I , II, III, V)**

2. Deitel, Neito, ”Internet and World Wide Web-How to program”,Pearson Education Asia,2003. **(Unit IV)**

3. D.P. Nagpal ,“Web Design Technology”, S.chand and Company Ltd , Reprint 2010. **(Unit III - VB Script)**

REFERENCE BOOKS:

1. Thomas A.Powell,”The Complete Reference HTML and XHTML”, Tata McGraw Hill publication, Fourth Edition, 2004.

2. Achyut S. Godbole, Atul Kahate, ”Web Technologies-TCP/IP to Internet Application Architectures”, Tata McGraw- Hill Pub. Company Ltd.2003.

SEMESTER VI **15UCT614**

C.P.14 INFORMATION SECURITY

Credit points: 5 **Total Hrs: 75 Hrs**

OBJECTIVE:

- To understand all aspects of cyber security including network security, computer security and information security.
- Students to become information security professionals for the high-end jobs in security.

UNIT-I **15 Hours**

Is there Security Problem in Computing? : What does Security mean? – Attacks-The Meaning of Computer Security-Computer Criminals. Protection in general purpose operating systems : Protected Objects and Methods of Protection-Memory and Address Protection-Control of Access to General Objects-File Protection Mechanoisms-User Authentication.

UNIT-II **15 Hours**

Program Security: Secure Programs- Nonmalicious Program Errors – Viruses and other Malicious Code- Targeted Malicious Code-Controls against Program Threats.

UNIT-III

15 Hours

Database and Data Mining Security: Introduction to Databases- Security Requirements-Reliability and Integrity- **Multilevel Databases*** – Proposals for Multilevel Security- Data Mining.

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UNIT-IV **15 Hours**

Security in Networks: Network Concepts*-Threats in Networks-Firewalls-Intrusion Detection Systems.

UNIT-V **15 Hours**

Legal and Ethical Issues in Computer Security: Protecting Programs and Data-Information and the Law-Computer Crime- Ethical Issues in Computer Security.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1.Charles P Pfleeger and shai Lawrence pfleeger, ”Security in computing”, Fourth Edition, Prentice Hall, 2007.

REFERENCE BOOKS:

1.Debby Russell and Sr.G.T.Gangemi, ”Computer Security asics(paperback)”, Second edition, O’Reilly Media, 2006.

2.Ross J.Anderson and Ross Anderson,”Security Engineering : A guide to building dependable distributed system”,Wiley,2001.

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SEMESTER VI **15UCT6CQ**

C.Pr.6 WEB PROGRAMMING LAB

Credit Points: 2 **Total Hrs.:90 Hrs.**

1. Create a Department website using XHTML tags.
2. Create a web page in the format of front page of a news paper using XHTML tags.
3. Create a quiz program and include cascading style sheets (CSS).
4. Design a web page to change the web page color at runtime using DHTML events.
5. Write a HTML program for new email account registration. Validate the input using JavaScript.
6. Design a calculator using JavaScript.
7. Design a web page to calculate student mark statement and validate using VB Script.
8. Create an Active server page that displays online result using database connectivity.
9. Write an XML program to display your bio-data using DTD.
10. Write an XML program using XSL.

Guidelines to the distribution of marks for practical Examinations:

One question will be given for each student (3 Hours / 60 Marks)

Record Work - 10 Marks

Particulars	**Program I (Marks)**
Algorithm	5
Web Page Designing	40
Modification	5

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SEMESTER VI **15UCT6Z1**

PROJECT WORK AND VIVA-VOCE

Credit Points: 4 **Total Hrs.:90 Hrs.**

- **Evaluated by both Internal & External Examiners jointly.**

Guidelines to the Distribution of Marks:

CIA	Project Review	15	**20**
	Regularity	5	
ESE	Project Report Present	60	**80**
	Viva – Voce	20	
Grand Total			**100**

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SEMESTER III 15UCT3A3

Allied 3 - MICRO PROCESSORS, PC HARDWARE & INTERFACING

Credit Points: 5 **Total Hrs.:90 Hrs.**

Objective :

- To understand the assembly language programs and peripheral device usages.

UNIT-I **18 Hours**

Evolution of Microprocessor, Internal microprocessor (8086 to Pentium) architecture of 8086; Programming Model, Real mode memory addressing, Introduction to protected mode memory addressing memory paging. Addressing modes: Data, program, Stack, memory-addressing modes.

UNIT-II **18 Hours**

Instruction set of 8086-Assembly language programming for 8086 microprocessor, Memory Segmentation

UNIT-III **18 Hours**

16 and 32 – bit memory interfacing, various bus protocols like ISA, EISA, VESA, PCI.Architecture Co- processor (8087), programming with 8087, Multi Processor System, Introduction to mmx technology.

UNIT-IV **18 Hours**

Introduction to Pentium and its higher generations: architecture, memory management. Assembler, debugger, Introduction to bit Slice processor, Signal

processing processor and transputers. Introduction to development tools, MDS, **logic analyzer***, in-circuit emulator.

UNIT-V **18 Hours**

Input devices -Output devices -Memory and I/O addressing -8086 Addressing and Address Decoding-Program mable I/O Ports -DMA Data Transfer.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1.Barry B. Brey, "The Intel Microprocessors: Architecture, Programming & Interfacing", PHI, Sixth Edition, 2003.

2. D. V. Hall, "Microprocessor and Interfacing Programming and Hardware", TMH, Second Edition.

3. Badri Ram," Advanced Microprocessors and Interfacing||", Tata McGraw Hill Publishing Company Limited, Fourteenth reprint, 2007. **(Unit V)**

REFERENCE BOOKS:

1. Ramesh S. Gaonkar, "Microprocessor Architecture Programming and Applications with the 8085" ,Penram International Third Edition – 1997.

2. A.P. Mathur – "Introduction to Microprocessors" - Tata McGraw Hill Publishing Company – Sixteenth Edition, 2000.

UCT 45

SEMESTER III

SKILL BASED SUBJECT 1 15UCT3S1

COMPUTER INSTALLATION AND SERVICING

Credit Points: 3 Total Hrs.:30 Hrs.

Objective:

To understand the knowledge about the hardware components and trouble shooting.

UNIT I 6 Hours

Introduction to Inside PC: Motherboard-BIOS-CMOS RAM-Motherboard types-Processors-Bus Standards-SMPS. On-Board Memory: PC's Memory Organization-Memory Packaging-I/O Ports.

UNIT II 6 Hours

Hard Disk Drive and Controller: Hard Disk Drive Sub-assemblies-Hard Disk Controller-Interface Types-Installation and configuration.

UNIT III 6 Hours

Input Devices: Keyboard-Mouse-Scanner-Digitizer-Digital Camera.
Monitors and Display Adapters: Display-Video Basics-VGA Monitors-Display Controllers- Digital Display Technology-CRT Controller-Graphics Cards.

UNIT IV

6 Hours

Output Devices: Dot Matrix Printer-Plotter-Printer Controller-Laser Printer-Ink-Jet Printer.
Computer Installation: **Room Preparation*-**Power supply- PC Installation

UNIT V **6 Hours**

Troubleshooting and servicing: Troubleshooting the motherboard- Troubleshooting the keyboard- Troubleshooting the floppy/hard disk Drives- Troubleshooting the Printer.

Computer maintenance: Diagnostic software-Data Security.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. D.Balasubramaninan, "Computer Installation and Servicing" , Tata McGraw Hill Second Edition, 2005.

REFERENCE BOOKS:

1. Craig Zacker & John Rourke, "The Complete reference: PC Hardware" , 2001.

2. Singh," Computer Troubleshooting", 1999 Edition.

3. Stephen J. Bigelow, "Trouble Shooting, Maintaining & Repairing PCs", McGraw Hill, 2001.

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SEMESTER IV

SKILL BASED SUBJECT 2 15UCT4SL

COMPUTER INSTALLATION AND SERVICING LAB

Credit Points: 3 Total Hrs.:30 Hrs.

1. Study of different components of a PC assembly.
2. Study of troubleshooting.
3. Study of OS Installation.
4. Study of Hard disk Fragmentation and de-fragmentation.
5. Study on Software installation.

Guidelines to the distribution of marks for Practical Examinations:

One Question will be given for each student. (3 Hours/60 marks)

Record : 10 marks

Particulars	Program1 (Marks)
Procedure	20
Assembling and Troubleshooting	30

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SEMESTER V

SKILL BASED SUBJECT 3 15UCT5S2

OPEN SOURCE TECHNOLOGY-LINUX

Credit Points: 3 **Total Hrs.: 30 Hrs.**

Objective:

To understand the concept about Linux and Shell Programming.

UNIT I **6 Hours**

Introduction: What Is UNIX?- What Is Linux?- The GNU Project and the Free Software Foundation - Linux Distribution.
Programming Linux: Linux Programs-Text Editors-The C Compiler-Development System Roadmap.

UNIT II **6 Hours**

Shell Programming : What Is a Shell? **-** Redirecting Output -Redirecting Input- Pipes.
The Shell as a Programming Language: Interactive Programs- Creating a Script-Making a Script Executable.
Shell Syntax: Variables- Conditions- Control Structures.

UNIT III **6 Hours**

Functions- Commands-Command Execution- Debugging Scripts- The dialog utility.

UNIT IV **6 Hours**

Linux File Structure: Directories-Files and Devices- System Calls and Device Drivers.
Library Functions- Low-Level File Access-write-read-open-Initial Permissions.

UNIT V **6 Hours**

The Standard I/O Library: fopen-fread-fwrite-fclose-fflush-fseek-fgetc-getc-getchar.
Formatted Input and Output: printf-fprintf-sprintf-scanf- fscanf- sscanf.

TEXT BOOK:

Neil Matthew and Richard Stones, **"Beginning Linux Programming"** 4th Edition, Wiley India Pvt. Ltd.

REFERENCE BOOK:

Iresh A. Dhotre, "**Linux Programming"**, A Comprehensive Approach, 1st Edition Technical Publications

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SEMESTER VI **15UCT6SM**

SKILL BASED SUBJECT 4

SHELL PROGRAMMING LAB

Credit Points: 3 **Total Hrs.:30 Hrs**

1. Write a Shell program to display your address.
2. To perform arithmetic operations using Shell Arithmetic.
3. Print the different patterns using looping concept.
4. To perform simple inventory control operation using read statement.
5. To prepare the student mark statement using the necessary controls.
6. Sort the given numbers in both ascending and descending orders.
7. Write a shell program to perform user defined function concept.
8. Write a shell program using dialog utility concept.
9. Write a program to perform file operations.
10. Write a shell script to print 'Hello Linux' message in Bold, Blink, and different colors.

Guidelines to the distribution of marks for practical examinations:

Two questions will be given for each student (3 Hours/60 Marks)

Record – 10 Marks

Particulars	Program1 (Marks)	Program2 (Marks)
Algorithm	5	5
Coding and Result	15	15
Modifications	5	5

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ELECTIVE PAPER - MOBILE COMPUTING

Credit Points: 5 **Total Hrs.:75 Hrs.**

Objective:

- To grasp the knowledge about mobile generations and mobile computing techniques.

UNIT-I **15 Hours**

Introduction: Mobility of bits and bytes, wireless- The beginning, mobile computing – Networks – Middleware and Gateways – Application and Services – Developing Mobile computing Applications – Security in Mobile Computing.

Mobile Computing Architecture: History of Computers – History of Internet – Internet – The ubiquitous network – Architecture for Mobile Computing– Three Tire

Architecture - Design consideration for Mobile Computing- Mobile Computing through Internet – Making existing Applications Mobile - Enabled.

UNIT-II **15 Hours**

Mobile Computing through Telephony: Evolution of Telephony – Multiple Access Procedures - Mobile Computing through Telephone – Developing an IVR application – Voice XML – Telephony Application Programming Interface (TAPI)

Emerging Technologies: Introduction – Bluetooth- Radio Frequency Identification – Wireless broadband – Mobile IP- Internet Protocol Version 6(IPV6)- Java Card.

UNIT-III **15 Hours**

Global system for Mobile Communication (GSM): Global system for Mobile Communication- GSM Architecture – GSM entities – Call routing in GSM, PLMN Interface – GSM Address Identifiers – Network aspects in GSM- GSM frequency allocation – Authentication and Security.

Short Message Service (SMS) : Mobile Computing over SMS - **Short Message Service***- Value added services through SMS – Accessing the SMS bearer.

UNIT – IV **15 Hours**

General Packet Radio Service (GPRS) : Introduction – GPRS and packet data network – GPRS network architecture – GPRS network operations – Data services in GPRS – Applications for GPRS- limitations of GPRS – Billing and Charging in GPRS.

Wireless Application Protocol (WAP): Introduction – WAP – MMS- GPRS application.

UNIT- V **15 Hours**

CDMA and 3G : Introduction – Spread spectrum technology – IS 95- CDMA versus GSM – Wireless data – Third generation network – Application on 3 G.

Wireless LAN : Introduction – Wireless LAN advantages – IEEE 802.11 standards – Wireless LAN architectures – Mobility in Wireless LAN – Deploying Wireless LAN – Mobile Ad-hoc network and sensor network – Wireless LAN Security – WiFi versus 3G.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. Ashok K Talukder, Roopa R Yavagal, “Mobile Computing ”, Tata McGraw Hill Publishing Company Ltd, 2005.

REFERENCE BOOKS:

1. Jochen Schiller ,”Mobile Communication” Addision Wesely Pub, Second Edition, 2003.

2. Hansmann, Lothar Merk, Martin and Nicklous, Thomos stober, “Principles of mobile computing”, Second Edition, springer international edition.

UCT 53

ELECTIVE PAPER - NETWORK SECURITY

Credit Points: 5 **Total Hrs.:75 Hrs.**

Objective:

To understand the various security concepts and key algorithms.

UNIT-I **15 Hours**

Attacks on Computers and Computer Security: Introduction – The Need for security – Security Approaches – Principles of Security – Types of Attacks: A General View – A Technical View - The Practical side of Attacks – Programs that Attack: Virus, Worms, Trojan Horse.

Cryptography: Introduction – Plain Text and Cipher Text – Substitution Techniques – Transposition Techniques - Encryption and Decryption – Steganography.

UNIT- II **15 Hours**

Symmetric Key Algorithms and AES: Introduction – Algorithm Types and Modes – An Overview of Symmetric Key Cryptography - DES – IDEA.

Asymmetric Key Algorithms, Digital Signatures and RSA: Introduction – The RSA Algorithm – An Overview of Asymmetric Key Algorithms - Digital Signatures

UNIT III **15 Hours**

Digital Certificates and Public Key Infrastructure (PKI): Introduction – Digital Certificates – Private Key Management – The PKIX model – PKCS .

UNIT-IV **15 Hours**

Internet Security Protocols: Introduction – Basic Concepts – SSL – TLS – SHTTP – TSP – SET – Email Security – WAP – * Security in GSM.

UNIT-V **15 Hours**

User Authentication and Kerberos: Introduction – Authentication Basics – Passwords – Certificate based Authentication – Biometric Authentication – Kerberos – KDC – Security Handshake pitfalls. SSO – DOS Attacks **– CSSV*.**

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOK:

1. Atul Kahate, "Cryptography and Network Security", Tata MC Graw Hill Publications, 2003.

REFERENCE BOOKS:

1.Charlie Kaufman, Radia Perlman, Mike Speciner, "Network Security Private Communication in a Public World", EEE Publications, Second Edition, 2005.

2. Nitesh dhanjani, Justin Clarke, "Network Security Tools", Shroff Publications and Distributions Pvt Ltd , Mumbai, 2005.

UCT 55

ELECTIVE PAPER – CLOUD COMPUTING

Credit Points: 5 **Total Hrs.:75 Hrs.**

Objective:

- To understand the basic knowledge about the cloud computing techniques and architecture.

UNIT-I **15 Hours**

Introduction - cloud computing at a glance – Historical development – Building cloud computing environment.

UNIT-II **15 Hours**

Principles of parallel and distributed computing – Eras of computing – parallel Vs distributed computing – Elements of parallel computing – Elements of distributed computing – Technologies for distributed computing.

UNIT-III **15 Hours**

Cloud computing architecture : Introduction – Cloud reference model – Types of clouds – Organizational aspects.

UNIT – IV **15 Hours**

Cloud Applications : Scientific applications : Healthcare – Business and Consumer Applications : CRM and ERP – Media Applications – **Muliplayer Online gaming*.**

UNIT- V **15 Hours**

Cloud computing for everyone – cloud computing for community – cloud computing for corporation.

*** Self Study and questions for examinations may be taken from the self study portions also.**

TEXT BOOKS:

1. Rajkumar Buyya, Christian vecchiola , Thamarai selvi, "Mastering Cloud computing", Mc Gram Hill Edu, 2013**.(UNIT – I to UNIT – IV)**
2. Michael Miller , " Cloud computing – Web based application " , Pearson Edu Inc, First Impression 2009**.(UNIT – V)**

REFERENCE BOOK:

1. Judith Hurwitz, Robin Bloon," Cloud Computing for Dummies", 2009

UCT 57

ELECTIVE PAPER –SYSTEM SOFTWARE

Credit points: 5 **Total Hrs: 75 Hrs**

OBJECTIVE:

- To understand the relationship between system software and machine architecture.
- To know the design and implementation of assemblers.

UNIT-I **15 Hours**

System Software and machine architecture-The simplified instructional computer(SIC)- machine architecture-Data and instruction formats-addressing modes-instruction sets-input/output and programming.

UNIT-II **15 Hours**

Basics assembler functions-A simple SIC assembler-assembler algorthims and Data structures-machine dependent assembler features-instruction formats and addressing modes-program relocation-machine independent assembler features-**literals*-**symbol-defining statements-expression –one pass assemblers and multi pass assemblers-implementation example-MASM assembler.

UNIT-III **15 Hours**

Basic loader functions-design of absolute loader-A simple bootstrap loader-machine dependent loader features-relocation-program linking-algorthim and data struture for linking loader-machine independent loader features-automatic library search-loader options-loader design options-linkage editors-dynamic linking-bootstrap loader-implementation example-MS-DOS linker.

UNIT-IV **15 Hours**

Basic macroprocessor functions-macro definition and expansion-macro processor algorthim and data structure-mahine independent macroprocessor features-concatenation of macroprocessor parameters-generation of unique labels-conditional macro expansion-keyword parameters-macro within macro-implementation example-MASM macro processor-ANSI C macro language.

UNIT –V **15 Hours**

Text editors-overview of the editing process-user interface-editor structure-interactive debugging systems-debugging functions and capabilities-relationship with other parts of the system-user interface criteria.

TEXT BOOK:

1.D.Thenmozhi,V.Deepa lakshmi,"System Software"-nagus publishing,First edition 2007.

REFERENCE BOOKS:

1.D.M.Dhamdhere,"System programming and Operating System",Tata mc Gram 1999,Revised edition.

2. Leland L.Beck,"System Software- A introduction to system programming" Third edition,pearson edu asia,2000.

Part IV SEMESTER-I **15EVS101**

ENVIRONMENTAL STUDIES

(2012-13 onwards)

Total Credits: 2 **Total Hours : 30**

Objectives:

- To inculcate knowledge and create awareness about ecological and environmental concepts, issues and solutions to environmental problems.
- To shape students into good "ecocitizens", thereby catering to global environmental needs.

UNIT I MULTIDISCIPLINARY NATURE OF ENVIRONMENT (6 hours)

1.1 Definition : scope and importance

1.2 **Need for public awareness***

1.3 Natural resources

1.3.1 Types of resources

Forest Resources – Water Resources – Mineral Resources – Food Resources – Energy Resources – Land Resources.

UNIT II ECOSYSTEMS (6 hours)

2.1 Concept of an ecosystem

2.2 Structure and functions of an ecosystem

2.3 Producers, consumers and decomposers

2.4 Energy flow in the ecosystem

2.5 Ecological succession

2.6 Food chains, food web and ecological pyramids

2.7 Structure and function of the following ecosystem*

Forest Ecosystem – Grassland Ecosystem – Desert Ecosystem – Aquatic Ecosystem.

UNIT III BIODIVERSITY AND ITS CONSERVATION (6 hours)

3.1 Introduction – Definition – Genetic – Species and ecosystem diversity

3.2 Biogeographical classification of India

3.3 Value of biodiversity*

3.4 Biodiversity at global, national and local levels

3.5 India as a mega – diversity Nation

3.6 Hot spot of biodiversity

3.7 Threats to biodiversity

3.8 Endangered and endemic species of India

3.9 Conservation of Biodiversity

insitu Conservation of Biodiversity – *exsitu* Conservation of Biodiversity

UNIT IV ENVIRONMENTAL POLLUTION (6 hours)

4.1 Definition

4.2 Causes, effects and control measures of: Air Pollution – Water Pollution – Soil Pollution – Marine Pollution – Noise Pollution – Thermal Pollution – Nuclear Pollution.

4.3 Solid Waste Managements: causes, effects, control measures of urban and industrial wastes.

4.4 Role of individual in prevention of pollution*.

4.5 Pollution case studies – domestic waste water, effluent from paper mill and dyeing, cement pollution.

4.6 Disaster Management – Flood, Drought, Earthquake, Tsunami, Cyclone and Landslide.

UNIT V SOCIAL ISSUES AND THE ENVIRONMENT (6 hours)

5.1 Sustainable Development

5.2 Urban problems related to energy

5.3 Water Conservation : Rain Water Harvesting and Watershed Management

5.4 Resettlement and rehabilitation of people, its problems and concerns, case studies – Narmatha Valley Project.

5.5 Environmental ethics, issues and possible solutions.

5.6 Climatic change, global warming, ozone layer depletion, acid rain, nuclear accidents and holocaust, case studies – Hiroshima and Nagasaki, Chernobyl.

5.7 Consumerism and waste products

5.8 Environmental Protection Act

5.9 Air Pollution Act (Prevention and Control)

5.10 Water Pollution Act (Prevention and Control)

5.11 Wild Life Protection Act

5.12 Forest Conservation Act

5.13 Issues involved in enforcement of environmental legislation

5.14 Public awareness*

5.15 Human population and the environment

5.15.1 Population Growth and Distribution

5.15.2 Population Explosion – Family Welfare Programme*

5.15.3 Environment and Human Health

5.15.4 Human Rights*

5.15.5 Value Education*

5.15.6 HIV / AIDS*

5.15.7 Women and Child Welfare

5.15.8 Role of Information Technology in Environment and Human Health*.

*** Self Study (Questions may be asked from these topics also)**

TEXT BOOK

1. P.Arul, A Text Book of Environmental Studies, Environmental Agency, No 27, Nattar street, Velacherry main road, Velacheery, Chennai – 42, First Edition, Nov. 2004.

REFERENCE BOOKS:

1. Purohit Shammi Agarwal, A text Book of Environmental Sciences, Publisher Mrs. Saraswati Prohit, Student Edition, Behind Naswan Cinema Chopansi Road, Jodhpur.

2. Dr.Suresh and K.Dhameja, Environmental Sciences and Engineering, Publisher S.K.Kataria & Sons, 424/6, Guru Nanak Street, Vaisarak, Delhi – 110 006.

3. J.Glynn Henry and Gary W Heinke, Environmental Science and Engineering, Prentice Hall of India Private Ltd., New Delhi – 110 001.

Question Paper Pattern
(External only)

Duration: 3 hours Total Marks : 50

Answer all Questions (5 x 10 = 50 Marks)

Essay type, either or type questions from each unit.

UCT 63

Part IV SEMESTER – II 15VED201

VALUE EDUCATION – MORAL AND ETHICS

(2014 – 2015 Batch Onwards)

Total Credits: 2 **Total hours: 30**

UNIT I

Introduction to Moral and Ethics; Aim of Education **(6 Hours)**

UNIT II

Ethics and Culture **(6 Hours)**

UNIT III

Early Life of Swami Vivekananda **(6 Hours)**

UNIT IV

The Parliament of Religions **(6 Hours)**

UNIT V

Teachings of Swami Vivekananda (**6 Hours)**

TEXT BOOK:

1. Value Based Education - Kongunadu Arts and Science College, Coimbatore, First Edition, 2014.

REFERENCE BOOKS:

1. Moral and Ethics - Published by Dr.M.Aruchami, Secretary and Director, Kongunadu Arts and Science College, Coimbatore, First Edition, June 2007.
2. "Vivekananda A Biography" - Swami Nikilananda, 29th Reprint, January 2013, Published by Swami Bodhasarananda, Adhyaksha, Advaita Ashrama, Mayavati, Champawat, Uttarakhand, Himalayas.

Question Paper Pattern

(External only)

Duration: 3 hours Total Marks: 50

Answer all Questions (5 x 10 = 50 Marks)

Essay type, either or type questions from each unit.

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Part IV SEMESTER – III 15UHR3N1

NON- MAJOR ELECTIVE - I HUMAN RIGHTS

Credit Points: 2 **Total Hrs.:30 Hrs.**

UNIT – I : **6 Hours**

Concept of Human Values, Value Education towards Personal Development
Aim of education and value education; Evolution of value-oriented education; Concept of human values; types of values; Components of value education.

Personal Development :
Self-analysis and introspection; sensitization towards gender equality, physically-challenged, intellectually-challenged. Respect to - age, experience, maturity, family members, neighbours, co-workers.

Character Formation towards Positive Personality:
Truthfulness, Constructivity, Sacrifice, Sincerity, Self-Control, Altruism, Tolerance, Scientific vision**.**

UNIT – II : **6 Hours**

Value Education towards National and Global Development
National and International Values:
Constitutional or national values - Democracy, socialism, secularism, equality, justice, liberty, freedom and fraternity.Social Values - Pity and probity, self-control, universal brotherhood. Professional Values - Knowledge thirst, sincerity in profession, regularity, punctuality and faith. Religious Values - Tolerance, wisdom, character. Aesthetic Values - Love and appreciation of literature and fine arts and respect for the same.National Integration and international understanding.

UNIT – III : **6 Hours**

Impact of Global Development on Ethics and Values
Conflict of cross-cultural influences, mass media, cross-border education, materialistic values, professional challenges and compromise.
Modern challenges of adolescent emotions and behaviour; sex and spirituality: comparison and competition; positive and negative thoughts.
Adolescent emotions, arrogance, anger, sexual instability, selfishness, defiance

UNIT- IV : Therapeutic Measures **6 Hours**

Control of the mind through

a. Simplified physical exercise
b. Meditation – objectives, types, effect on body, mind and soul
c. Yoga – objectives, types, Asanas
d. Activities:
   (i) Moralisation of Desires
   (ii) Neutralisation of Anger
   (iii) Eradication of Worries
   (iv) Benefits of Blessings

UNIT- V : Human Rights **6 Hours**

1. Concept of Human Rights – Indian and International Perspectives
   a. Evolution of Human Rights
   b. Definitions under Indian and International documents

2. Broad classification of Human Rights and Relevant Constitutional Provisions.
   a. Right to Life, Liberty and Dignity
   b. Right to Equality
   c. Right against Exploitation
   d. Cultural and Educational Rights
   e. Economic Rights
   f. Political Rights
   g. Social Rights
   h. Right to Information

3. Human Rights of Women and Children
   a. Social Practice and Constitutional Safeguards
      (i) Female Foeticide and Infanticide
      (ii) Physical assault and harassment
      (iii) Domestic violence
      (iv) Conditions of working women

4. Institutions for Implementation
   a. Human Rights Commission
   b. Judiciary

5. Violations and Redressal
   a. Violation by State
   b. Violation by Individuals
   c. Nuclear weapons and terrorism
   d. Safeguards

Note: Study material can be obtained from the Office of the Controller of Examinations of our College.

UCT 66

Part IV SEMESTER – IV 15UWR4N2

NON- MAJOR ELECTIVE - II WOMEN'S RIGHTS

Credit Points: 2 **Total Hrs.:30 Hrs.**

UNIT I **6 Hours**

Laws, Legal Systems and Change

Definition - Constitutional law, CEDAW and International Human Rights – Laws and Norms – Laws and Social Context – Constitutional and Legal Framework.

UNIT II **6 Hours**

Politics of land and gender in India

Introduction – Faces of Poverty – Land as Productive Resources – Locating Identities – Women's Claims to Land – Right to Property - Case Studies.

UNIT III **6 Hours**

Women's Rights: Access to Justice

Introduction – Criminal Law – Crime Against Women – Domestic Violence – Dowry Related Harassment and Dowry Deaths – Molestation – Sexual Abuse and Rape – Loopholes in Practice – Law Enforcement Agency.

UNIT IV **6 Hours**

Women's Rights

Violence Against Women – Domestic Violence - The Protection of Women from Domestic Violence Act, 2005 - The Marriage Validation Act, 1982 - The Hindu Widow Re-marriage Act, 1856 - The Dowry Prohibition Act, 1961

UNIT V **6 Hours**

Special Women Welfare Laws

Sexual Harassment at Work Places – Rape and Indecent Representation – The Indecent Representation (Prohibition) Act, 1986 - Immoral Trafficking – The Immoral Traffic (Prevention) Act, 1956 - Acts Enacted for Women Development and Empowerment - Role of Rape Crisis Centers.

REFERENCE BOOKS:

1. Nitya Rao, "Good Women do not Inherit Land", Social Science Press and Orient Blackswan, 2008.
2. International Solidarity Network, "Knowing Our Rights", An imprint of Kali for Women, 2006.
3. P.D. Kaushik, "Women Rights" ,Bookwell Publication, 2007.
4. Aruna Goal, "Violence Protective Measures for Women Development and Empowerment", Deep and Deep Publications Pvt, 2004.
5. Monica Chawla, "Gender Justice", Deep and Deep Publications Pvt. Ltd,2006.
6. Preeti Mishra, "Domestic Violence Against Women", Deep and Deep Publications Pvt, 2007.
7. Clair M. Renzetti, Jeffrey L. Edleson, Raquel Kennedy Bergen, Source Book on "Violence Against Women", Sage Publications, 2001.

UCT 68

15UHR3N1 & 15UWR4N2

NON-MAJOR ELECTIVES I & II

QUESTION PAPER PATTERN

Duration : 3 Hours **Max. Marks: 75**

Answer ALL Questions

SECTION A (5 x 5 = 25 marks)

Short answers, either or type, one question from each unit.

SECTION B (5 x 10 = 50 marks)

Essay type questions, either or type, one question from each unit.

UCT 69

KONGUNADU ARTS AND SCIENCE COLLEGE [AUTONOMOUS]
COIMBATORE - 641 029

CIA & End of Semester Theory Examination Question Paper Pattern

[For the candidates admitted from the academic year 2015-2016 Onwards]

Maximum Marks: 75

Section – A (10 X 1=10 Marks)

Q.No.1 to 10: Multiple choice types alone with four distractors each.

Section – B (5 X 5=25 Marks)

Q.No.11 to 15: Either or/Short notes type questions (one question 'a' or 'b' from each unit).

Section – C (5 X 8=40 Marks)

Q.No.16 to 20: Either or/essay type questions (one question 'a' or 'b' from each unit).

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